

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No. : 10/606,436 Confirmation No. 6928  
Appellant : Steven M. Burns et al.  
Filed : June 25, 2003  
TC/A.U. : 1793  
Examiner : Sikyin Ip  
  
Docket No. : 085.10940-US(03-325)  
Customer No. : 52237

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313

REQUEST FOR REHEARING/RECONSIDERATION

Dear Sir:

Appellants hereby request that the Board of Patent Appeals and Interferences ("Board") rehear/reconsider the decision rendered on February 20, 2009.

As will be set forth hereinafter, the Board has misapprehended certain facts and therefore has erroneously affirmed the rejection of claims 15 - 23 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,042,898 (the '898 patent) to Burns et al.; and the rejection of claims 1 - 14, 28, and 29 under 35 U.S.C. 103(a) as being unpatentable over Burns et al. in view of Japanese Patent Publication No. 6-213,981 or Japanese Patent Publication No. 2003027209.

BACKGROUND

In the Decision rendered on February 20, 2009, 2008, the Board in affirming the rejection of claims 15 - 23, states "Appellants submit the 'there is nothing here [in Burns] which teaches a diffusion heat treating step" (Reply Br. 3, first para.). However, Burns .... Hence, contrary to Appellants'



argument, Burns provides a clear teaching of a diffusion heat treating step.'" As will be discussed hereinafter, the Board has misapprehended the argument made by Appellants.

Further, the Board, in rejecting claim 15, erroneously takes the position that Appellants have not specifically defined the meaning of the language "gas being injected at a workpiece center location" and thus the breadth of this limitation in claim 15 is open to a myriad of interpretations.

Still further, the Board has erroneously failed to appreciate the evidence of unexpected results presented by Appellants. In the Decision, the Board says that Appellants base no argument upon objective evidence of non-obviousness, such as unexpected results. Appellants submit that the Board has erred by not recognizing that Figures 3 and 4 are factual and objective evidence of unexpected results obtained in an unexpected way.

Still further, in the Decision, the Board rejected claim 1 on obviousness grounds, making the following statements:

"... we are satisfied that it would have been obvious for one of ordinary skill in the art to inject the cleaning gas of Burns at all areas or locations of the workpiece, including the center location. Claim 1 does not recite that the cleaning gas is injected only at the workpiece center location nor does claim 1 require any particular order in which the cleaning and diffusion heat treating steps are performed. Appellants have provided no specific definition for the center location of the workpiece."

Nowhere in the rejection does the Board present an articulated line of reasoning containing a rational underpinning to support the legal conclusion of obviousness.



## ARGUMENT

*(A) The Rejection of Claim 15**Should Be Reversed*

On page 3 of the Decision, the Board misapprehends the principal argument about Burns presented by Appellants. Throughout its Appeal Brief and throughout its Reply Brief, Appellants repeatedly pointed out that Burns does not teach or suggest the step of diffusion heat treating said at least one workpiece in gas atmosphere within a furnace with said gas being injected at a workpiece center location. See page 7, first full paragraph of Appellants' Brief; also see page 2 of Appellants' Reply Brief, second full paragraph. Burns teaches the state of the art prior to Appellants' invention - namely, one would perform a diffusion step. There is absolutely nothing in Burns which would lead one to perform the diffusion step in the manner set forth in claim 15.

The Board, on page 4 of its decision, goes on to state that:

"...while Burns does not specify which area or location of the workpiece the gas is injected at during the diffusion heat treating, we are persuaded that it would have been obvious for one of ordinary skill in the art to inject the gas at the entirety of the workpiece, including its center location. Significantly, claim 15 does not recite that the gas is injected only at a workpiece center location and, indeed, Appellants have not specifically defined the meaning of the language 'gas being injected at a workpiece center location.' The breadth of the claim recitation is open to a myriad of interpretations."



The Board is correct in saying that claim 15 does not recite that the gas is injected only at a workpiece center location; however, this is irrelevant to the patentability of claim 15. There is nothing in the prior art which teaches or suggests injecting the gas at the workpiece center location, which is the point of novelty and non-obviousness.

With respect to the phrase "gas being injected at a workpiece center location" being open to a myriad of interpretations, Appellants submit that the Board has erred by not construing the phrase prior to applying the prior art and by not recognizing that there is one, and only one, interpretation of the phrase. The word "center" has a very specific meaning. As defined by the MSN Encarta Dictionary, the word "center" means "middle point, area, or part of something that is the same distance from all edges, ends, or opposite sides". Thus, to one of ordinary skill in the art, the phrase means that the gas is injected at a location of the workpiece which is the same distance from all edges, ends, or opposite sides of the workpiece center location. Appellants submit that there is nothing in the cited and applied prior art, namely Burns, which teaches this or renders this claim limitation obvious. Certainly, the Board decision does not point to any such prior art.

The relevant inquiry before the Board was "[would] an artisan of ordinary skill in the art at the time of the invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention have selected the various elements from the prior art and combined them in the manner claimed." See *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1337 (Fed. Cir. 2005). The answer in the instant case is "no". There is absolutely nothing in the



cited and applied prior art which teaches performing the claimed diffusion heat treating step by injecting gas at a workpiece center location and the Board does not provide any reason, flowing from the prior art, to do so.

The burden on the U.S. Patent and Trademark Office is to show by clear and convincing evidence that a skilled artisan would have been motivated to perform the claimed method step and that the skilled artisan would have had a reasonable expectation of success in doing so. See *DyStar Textilfarben GmbH v. C. H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006); also see *Brown & Williamson Tobacco Corp. v. Phillip Morris, Inc.*, 229 F.3d 1120, 1124 (Fed. Cir. 2000). It is submitted that the U.S. Patent and Trademark Office has erred by failing to recognize this burden. There is absolutely no articulated line of reasoning having a rational underpinning presented by the Examiner or the Board which explains why the skilled artisan would have performed the claimed diffusion heat treating step given (1) the state of the prior art; and (2) the absence of the claimed location in any written document. On this point, to have a reasonable expectation of success, one must be motivated to do more than merely vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful. See *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006).

There can be no question that Appellants achieve an unexpected result, a better coating, by performing the claimed diffusion heat treating step. Figures 3 and 4 in the specification show a coating that has been subjected to the diffusion heat treatment of the present invention (FIG. 3) vs. a



coating that has not been subjected to the diffusion heat treatment (FIG. 4). As set forth on page 8 of the specification, FIG. 3 illustrates a coating which is free of pores, voids, and other bad features. Further, the coating is homogeneous and has very good ductility. FIG. 4, on the other hand, illustrates a coating which is of poor quality. It has voids and fissures which make it quite brittle. Both the Examiner, and the Board, have erroneously ignored this factual and objective evidence of unexpected results. With regard to the Board's statements about the absence of such evidence on page 5 of the Board's decision, the Board's position is wrong. Such evidence has been presented to the Board. While it is not in the form of a declaration, there is no requirement that the evidence must be presented in the form of a declaration. As for an analysis of Figures 3 and 4, the analysis is right before everyone's eyes. To one of ordinary skill in the art, the differences in coatings are clear from a mere viewing of Figures 3 and 4 - no explanation is required. If there is any question as to what is shown, one need only refer to page 8 of the specification. Appellants respectfully disagree with the Board's statement that "it is not for this Board to ferret out factual data in the record and interpret it in a light most favorable to the applicant." The statement simply fails to recognize that the evidence was presented to the Board. Apparently, the Board has failed to apprehend it. It is for the Board to consider all the evidence in the record, particularly as noted by the Board, when Appellants make specific reference to Figures 3 and 4. It works no hardship on the Board to review the Figures mentioned in Appellants' Brief, and if the Board does not understand what is being shown in the Figures to read the specification related thereto. To ignore evidence of



unexpected results when one performs the claimed method step at issue on its face is error as a matter of law. To deprive Appellants' of a patent to their invention simply on a matter of form, i.e. declaration vs. visual examination of the cited Figures, over substance is equally wrong.

Appellants submit that for the foregoing reasons, the rejection of claim 15 is flawed and should be reversed.

*(B) Patentability of Claim 1*

As noted by the Board on page 4 of its decision, claim 1 recites a cleaning step in addition to the diffusion heating step discussed above. Appellants hereby incorporate the arguments about the diffusion heating step set forth above. The secondary references to JP '810 or JP' 209 are not cited for their disclosure of a diffusion heat treating step and thus do not cure the deficiencies of Burns with respect to the diffusion heating step.

The Board sets forth on page 4 of its decision, the conclusory statement:

"... we are satisfied that it would have been obvious for one of ordinary skill in the art to inject the cleaning gas of Burns at all area or location of the workpiece, including the center location. Claim 1 does not recite that the cleaning gas is injected only at the workpiece center location, nor does claim 1 require any particular order in which the cleaning and diffusion heat treating steps are performed. Appellants have provided no specific definition for the center location of the workpiece."

Appellants submit that this statement is flawed for a number of reasons. First, it does not matter whether the claim



recites that the cleaning gas is injected only at the workpiece center location. The issue is whether the references would lead one of ordinary skill in the art to inject the cleaning gas at the workpiece center location. Second, as for the order in which the steps are performed, the order is set forth in claim 1. If one reads the whole disclosure, it is clear that the cleaning step is performed before the diffusion heat treating step. The claims should be read in light of the specification.

Third, Appellants have not provided any specific definition for the center location of the workpiece because no such definition is required. As noted above, the word "center" has a meaning. To ignore the meaning of the word is to misapprehend the meaning of the phrase and to misapprehend the claimed subject matter. Fourth, it is incumbent upon the Board to construe the language of claim 1 prior to applying the prior art, and the Board has not done that.

Finally, such conclusory statements of obviousness as presented by the Board on page 4 of their Decision have been deemed to be insufficient. Obviousness requires a suggestion of all elements in a claim (*CMFT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003)) and "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1741 (2007). As stated in *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Missing from the Board's decision is the articulated reasoning required by *Kahn*.

Appellants submit that for the foregoing reasons, the rejection of claim 1 is flawed and should be reversed.



#### CONCLUSION

The Board has committed errors of fact and misapprehended the arguments presented by Appellants. As a result of these errors and misapprehension, the Board's decision to affirm the Examiner's rejection of claims 1 and 15 under 35 U.S.C. 103(a) was erroneously made.

The Board is hereby requested to reverse the rejection of claims 1 and 15 under 35 U.S.C. 103(a) and remand the application to the Examiner for allowance and issuance.

#### FEEES

No fee is believed to be due as a result of this response. Should the Director determine that a fee is due, he is hereby authorized to charge said fee to Deposit Account No. 21-0279.

Respectfully submitted,  
Steven M. Burns et al.

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